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ABSTRACT

This document presents an explanation, illustration, and evaluation of a Students Toward Environmental Participation (S.T.E.P.) Project at Rutherford High School in Bay County, Florida. The main objective of this S.T.E.P. Project was to train high school students to teach environmental awareness activities to elementary students. This booklet includes environmental activities, field-tested eco-dramas, and sample evaluations from elementary and junior high school students. The activities are interdisciplinary and include a purpose, materials list, and procedure description. (MA)

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We wish to express our appreciation to the following: The Bay County Audobon Society; the faculty, staff, and administration of Rutherford High School; Annell Gilbert and Charles Clements of the County School Board Staff; and the hundreds of students and teachers who made S.T.E.P. in Bay County a success.

BAY COUNTY SCHOOLS
• PANAMA CITY, FLORIDA 32401 •

Curtis E. Jackson
Superintendent

These booklets are printed on ECOLOGY BOND PAPER made from 100% recycled waste.

The materials printed in this booklet explain and evaluate the S.T.E.P. Project at Rutherford High School in Bay County, Florida. The materials used are those of the Bay County participants, consultants and adaptations from the booklet, "Ways to Environmental Education at the Tallahassee Junior Museum."

The major objective of the Rutherford High School Project was to train high school students to teach environmental awareness activities to elementary age students. Environmental awareness was taught through a series of activities, games, and eco-dramas. The emphasis was on teaching in the school yard. Elementary age students were chosen for the project in order that the information may be communicated to parents and older sisters and brothers.

Included in this booklet are the activities used, the field-tested eco-dramas, and sample evaluations from the elementary and junior high students. Copies of several eco-dramas which have not been field-tested and additional, related materials are available upon request.

S.T.E.P.

Students Toward Environmental Participation

What is S.T.E.P.?

S.T.E.P. stands for Students Toward Environmental Participation. S.T.E.P. members are high school students who:

1. are environmentally aware of the wholeness of the earth, who understand the inter-dependence of all living things, and who can relate to nature in a personal manner;

2. are personally committed to the redemption of the environment-both human and natural;

3. prove their own commitment by communicating environmental awareness to younger children in Environmental Study areas as a group or on a one-to-one personal basis. S.T.E.P. members also communicate these same environmental values and concerns to their peers and elders by many other methods using a variety of techniques.

Structure and Philosophy

Each S.T.E.P. unit is regarded as a local high school group dedicated to teaching the philosophy of the S.T.E.P. program. High school students are ideal for these activities because they can communicate awareness activities to younger children and to adults. S.T.E.P. is a positive approach to conservation of our environment. Individuals are made aware of the purpose, interrelationship and wholeness of the earth through activities, games, and role-playing. When an individual has become aware of the role of each plant, animal or thing in nature, he will make a value judgement relative to conservation or destruction of the environment. Hopefully through programs such as S.T.E.P. we will all learn to think: "Conservation and Preservation."

Overview of S.T.E.P. Project

1. The Environmental Awareness Club had its first bi-monthly meeting in October to elect officers and adopt the S.T.E.P. Project as a part of the activities of the club for the 1975-76 school year. Plans were made for the year.

2. During the fall, the local Audobon Society sponsored a trip for one of the students to Camp Weed wherein he participated in several Environmental Awareness activities that were very similar to the the S.T.E.P. activities that he shared with the club.

3. December 3,4, and 5, 1975, 5 students and one instructor attended a S.T.E.P. conference at the Blackwater River Forest Environmental Center. Fort Walton Beach High School was the host school. Students from Godby, Rickards, and Leon High Schools also attended this conference. Five students were S.T.E.P. trained at this conference.

4. Every other Monday immediately after school during January and February (weather permitting) the five S.T.E.P. trained students in the environmental awareness club in S.T.E.P. activities around the school yard.

5. April 15, 1976 - S.T.E.P. students from Rutherford High School taught environmental awareness activities to Ms. Daisy Swearingen's 6th grade class at A. D. Harris Sixth Grade Center.

6. April 28, 1976 - S.T.E.P. activities were taught to Ms. Barbara Harrison and Ms. Sidney Powell's 6th grade class at Patterson Sixth Grade Center.

7. May 18, 1976 - S.T.E.P. students visited Parker Elementary School to teach Ms. Petit's 4th grade class environmental awareness activities.

8. June 1, 1976 - After school on this date the S.T.E.P. students visited and taught S.T.E.P. activities to Ms. Quick's 4th grade class at Millville Elementary School.

9. Students of the Environmental Awareness Club (S.T.E.P.) were special guests of the local Audobon Society meeting each month. Ms. Helen King, educational chairperson of the society, sent educational materials and extended invitations to all functions of the Panama City Audobon Society.

10. The Environmental Awareness Club was organized as a School club as a channel through which the S.T.E.P. Project could work. This year we received a plaque for achievement in promoting club purpose from the school.

11. School Journal, which is a 5 minute television broadcast by students from the three local high schools Radio, T. V. Journalism classes, televised the S.T.E.P. Project on December 4, 1975. Students from the club who were members of the class appeared on television.

12. The school paper, "Rampage", carried an article outlining the purpose and implementation of the S.T.E.P. Project.

13. A scrapbook and picture album containing pictures, articles, original elementary pupil evaluations, samples of poems, and simple paintings have been compiled.

14. Members of the Environmental awareness club made dried flower arrangements using drift wood, pine cones, dried flowers and other recycleable materials as a club project. Several of these are on hand to be sold next year for club expenses not covered by the S.T.E.P. Fund.

15. S.T.E.P. members have been asked to teach environmental awareness activities to elementary science teachers from across the State of Florida when the Florida Association of Science Teachers meets in Panama City, Florida during October, 1976. Several field trips to the beach and St. Andrews State Park have been tentatively scheduled. The eco-dramas which are a part of this project will also be presented to the elementary science teachers at this time.

Rutherford High School's S.T.E.P. Leaders

1. Naomi Anderson
2. Sabrina Corn
3. Lisa Driggers
4. Kim Faulk
5. Rosby Ford
6. Karen Frye
7. Cindy Goodman
8. Jimmy Knight
9. Charles Poor
10. Suzanne Porter
11. Gilda Robinson
12. Mark Rogers
13. Debe Schmelze
14. Bernie Short
15. Susan Soueby
16. Fonda Satterfield
17. Mary Wallace
18. Ken Wilson

Jean Oates
Sandy Linton
Rudolph Peuhs

The above list of S.T.E.P. trained students consists of eleven sophmores, six juniors and one senior.

Techniques

Here are some teaching techniques you may find helpful.

Hints:

A. Participate in an activity you ask others to do.
B. Try not to get in a rut. Look for changes.
C. Try new ideas, realizing that all of them will not be as successful as you would like.
D. Share your successful techniques with others and vice versa.
E. Copy others if you want, but use your own ideas.
F. ADAPTABILITY AND FLEXIBILITY: The name of the game! Age groups, cultural backgrounds, degrees of sophistication - all lead to a person's present attitude about his environment. You will have to make adjustments to those with each group you lead.
G. Make sure your environmental ethic is up for the day! Your frame of mind will rub off on your charges.

H. Pick and choose the activities that best suit you and the amount of time you have with each group. In most cases you will have only one shot with the group. Make the most of it.

Skills:

A. Discussion skills
   1. Ask questions to stimulate thinking, not test-type ones.
   2. Fit ecological concepts in when you can with ease, not because you think you have to - don't force them.
   3. Let your group teach you, and acknowledge this to your group.
   4. Encourage curiosity. Let individuals find their own items of interest.
   5. Encourage them to question.

B. Control Techniques

1. Tell your group your rules before starting on the trail.
2. Quiet voice, quiet children. (Usually!)
3. Take off quickly for next "stop spot" with eager anticipation.
4. Encourage investigation as a group.

Learning with the Strands

The strands are five avenues used to teach environmental education. They act as a handle which enables us to see our place in nature and to understand the basic interrelationships in any environment. The object is not to teach the strands per se, but that they exist in all life's situations. These five strands promote the use of the senses--seeing, touching, smelling, hearing.

S.P.I.C.E.

S. - Similarities and Varieties - Many likenesses and differences occur among living and non-living things. Finding the similarities can help you classify things into patterns to increase your understanding of the world.

P. - Patterns - In nature and in everyday living we see arrangements that are organizational, that play a special function or just are pleasing to the eye.

I. - Interaction and Interdependence - Nothing can exist by itself. Everything is constantly interacting with living and non-living things. The process continues even after death (as part of the life pattern), for dead life-forms nourish the living.

C. - Continuity and Change - Both living and non-living things are constantly changing, but some things remain the same in spite of change.

E. - Evolution and Adaptation - Living and non-living things alter to "fit" into the environment or adapt. Centuries of time of adapting may result in a new species - evolution.

The strands provide an interesting structure to explore an Environmental Study Area (E.S.A.). This is the place where we can do our thing in terms of relating to the environment and nature using the senses. ESA's may be natural, cultural, or historical areas designated for this type of study or they can be a school playground, a garbage dump, or yourown backyard. An ESA is a place to love, feel, and interpret the world.

... It might show man's relationship to the environment whether it is positive or negative.

... ESA's should have an overall "sturdiness" so that continued use will not have a devastating effect on the environment.

... It might be at a location that makes the area convenient for regular use be area schools.

The strands and the Environmental Study Area provide a way for you to look at and communicate with your environment. You must also have ways to communicate with students, parents, teachers -- everybody!

Procedures for Teaching

S.T.E.P. activities

to elementary students

To teach environmental awareness activities to students at the two sixth grade centers and two fourth grade classes at two elementary schools, the following procedure was used: High school students took ½ day school leave. The first visit consisted of one S.T.E.P. team and several other high school students for training. The S.T.E.P. team visited the teaching area several days before the actual activity took place and selected areas around the school for teaching. On the day that the environmental awareness activities were taught, the teacher and students were divided into two groups for the first activity which was the Food Web. This activity allowed the students to begin thinking of many organisms and forces in the universe and how they are all interrelated. The procedure for doing the food web will be found in the section of this booklet on activities.

After the Food Web, the students were divided into 3 groups, A,B,C, for the remaining activities. The following activities proved to be very adaptable and successful with the elementary age pupils: Scavenger Hunt; Paint a Picture using Nature's medium; Trust Walk; Make a Bouquet from Nature; Creepy Crawler race; write a poem or verse about something in Nature; and how you feel about it. The activities will be explained in detail later. Each S.T.E.P. leader taught two of the above activities. Due to the attention span of elementary age pupils and the available time, each activity lasted for approximately 20 minutes. S.T.E.P. leader A taught the trust walk and then had the students to make a bouquet. S.T.E.P. leader B taught the Creepy Crawler race and then had the students write a poem or verse about something in Nature; S.T.E.P. leader C did the Scavenger Hune and paint a picture. The Scavenger Hunt and paint a picture were done as a set in order that the students could use some of the things that they found on the scavenger hunt to paint the picture. At the end of each forty minutes the groups would switch to different S.T.E.P. leaders. During the visits to each elementary school additional high school students were trained. For the majority of the teaching activities, there were at least 3 high school students who participated in each activity.

The Trust Walk proved to be the most fun to the pupils. These pupils were able to put themselves into the activity without hang-ups or reservation. At several schools observations were made of students who spoke very little or no English. These students were able to participate in S.T.E.P. activities on an equal basis and achieve success.

At the end of each visit, the S.T.E.P. leaders and elementary class met in a large group to say, "good-bye" and the teacher was asked to have the students write evaluations of the activities. Some of the children drew pictures, wrote poems and the majority had very favorable comments.

Activities used with the Bay County Elementary Pupils:

THE WEB OF LIFE

Purpose: To illustrate how plants and animals (including man) are dependent upon each other and upon the environment (sun, air, water and soil) for survival through a "web" of inter-relationships, and what happens if the web is damaged.

Materials needed:

Ball of string	4" x 12"
Magic Marker or crayon	name cards

Description: Players form a circle. Each player is given a name card which identifies him as some part of the environment, such as the sum, air, water, soil, different types of plants and animals, and man. (also man-made things such as factories, cars, houses,etc.) The leader begins by asking the "sun" to hold the end of a string and then unwinds the string from one player to the next, criss-crossing back and forth across the circle. As each player is connected, ask the group why a connection is important in the environment. For example, how is a tree "connected" to the sun (or dependent upon the sun), how is man connected to the tree, an so on. Any two players can be connected. Be sure to unwind the string in one continuous strand, don't cut it after connecting the players. Connect all players to at least one other player. After the connections have been made, the string will form a "web" which connects all the major parts of the "environment." The leader then cuts the string between any two players and asks the group what will happen to the web of life now that the connection has been broken. Follow the cut string from one player to another showing how one broken strand can affect everything in the web since all are connected to one another. Eventually the connections lead back to the sun, the source of energy for all life.

Some lively discussion and penetrating questions often accompany this game of course, the leader must gauge the complexity of the game according to the group's age and abilities.

This activity stimulates the thinking of any age group relative to interdependence. We suggest this activity for the beginning of the elementary teaching sessions.

THE WEB OF LIFE

SCAVENGER HUNT

Purpose: To awaken one's awareness to detail around him.

Description: Depending on the size of the group, have the participants divide themselves into groups of 2,3,or 4 people. Give them 10 - 20 minutes to collect their objects. When all the groups have returned, let them share with others what they have found. You may have to elaborate a bit on some of the articles listed depending on the age and sophistication of the people you are working with. Also, don't be afraid to make your own list for the hunt or make changes in this list.

The following is the list used with elementary students. Ask students to go out and collect the following:

1. Three simple shapes
2. A pleasant smell and an unpleasant smell (odor)
3. A trace from an animal
4. Three different textures
5. A sound from nature
6. Something older than you are and something younger than you are
7. Find something blue, something green, something red, something brown

For elementary students, it would add to the enthusiasm to have a gift for the team that found the most objects in the specified time. A gift such as a litter bag or ecology poster could be used.

The following is a list that may be used with groups of more advanced age:

1. Simple maching
2. Three simple shapes
3. Sweet taste and a sour taste in nature
4. A pleasant and an unpleasant odor
5. A trace from an animal
6. Three Primary colors and two Secondary colors
7. Three different textures
8. One sound from Nature
9. An example of non-biodegradable litter being degraded
10. Something older than you are and something younger
11. A producer, a consumer and a decomposer

PAINT A PICTURE

Purpose: To enable one to become aware of the various colors from Nature

Description: Give each participant a piece of paper and tell them to go out and paint a picture. You may give hints depending on the age of the group. Berries, flowers and leaves may be used to get various colors. After the participants return, you may ask them to name the painting and discuss the materials used for the various colors.

CREEPY CRAWLER RACE

Purpose: To have one observe an animals's pattern of movement and behavior.

Description: Ask participants to go out and catch a creepy crawler. (beetle, ant, worm, frog, grasshopper, snails, etc.) After Each participant has found an animal, draw a circle. Each person places his animal in the center of the circle and observes to see whose animal reaches the edge of the circle first. Then tell each participant to observe his creepy crawler very carefully for several minutes. Draw a starting line and have each participant race to a certain point using the type locomotion of his creepy crawler.

POETRY

Purpose: To have an individual become aware of the beauty of Nature.

Description: When working with the elementary students it is best to ask them to write a poem or verse about something they like found in the environment. Give them approximately 20 minutes to write the verse. You may read them to the group.

TRUST WALK

This activity blocks out one sense thereby stimulating the other senses. Let each person pick a partner. One is blindfolded, the other person is the guide. They are to hold hands. The only communication they may have is hand-to-hand. The guide must "tell" his blindfolded partner where to go with hand motions only. You will lead the way for these pairs to follow. Lead them through an area where they must step over, under, through, and around obstacles. At some point stop the blindfolded partner. Tell him orally to use his senses other than sight to recognize the place. Lead blindfolded partner back to starting point. Remove the blindfold and tell him to find the place that you told him to remember and recognize. Let the partners switch roles and repeat the trust walk.

MAKE A BOUQUET

Make a Bouquet

Ask the participants to go out and make a bouquet or floral arrangement. They may use flowers, pine cones, leaves, etc. to make a beautiful bouquet from Nature. When all of the participants have finished, they may discuss the bouquet. Then tell them to give the bouquet to someone they really like.

The preceding activities were the ones adapted and used to teach environment awareness to elementary groups.

You will find other S.T.E.P. activities later in this booklet.

Samples of poetry written by 4th and 6th grade students:

I like Bees
I like Trees
I like the Sun

It Likes me

Music is high
and so low
Wherever you fly
it's playing below

The wind is
wild like a
weeping willow

Grasshoppers hop,
Cars run by motor
When the wind blows
The trees rock
The birds sing goodmorning
to everybody

LADYBUG
A lady bug I would
like to be
I would fly way out into
the sea
Above the white clouds
That's what I want to be

SIGHTS

Well a dragonfly
flys by
Over the grassy hill
We shall not cry
Over the things we spill

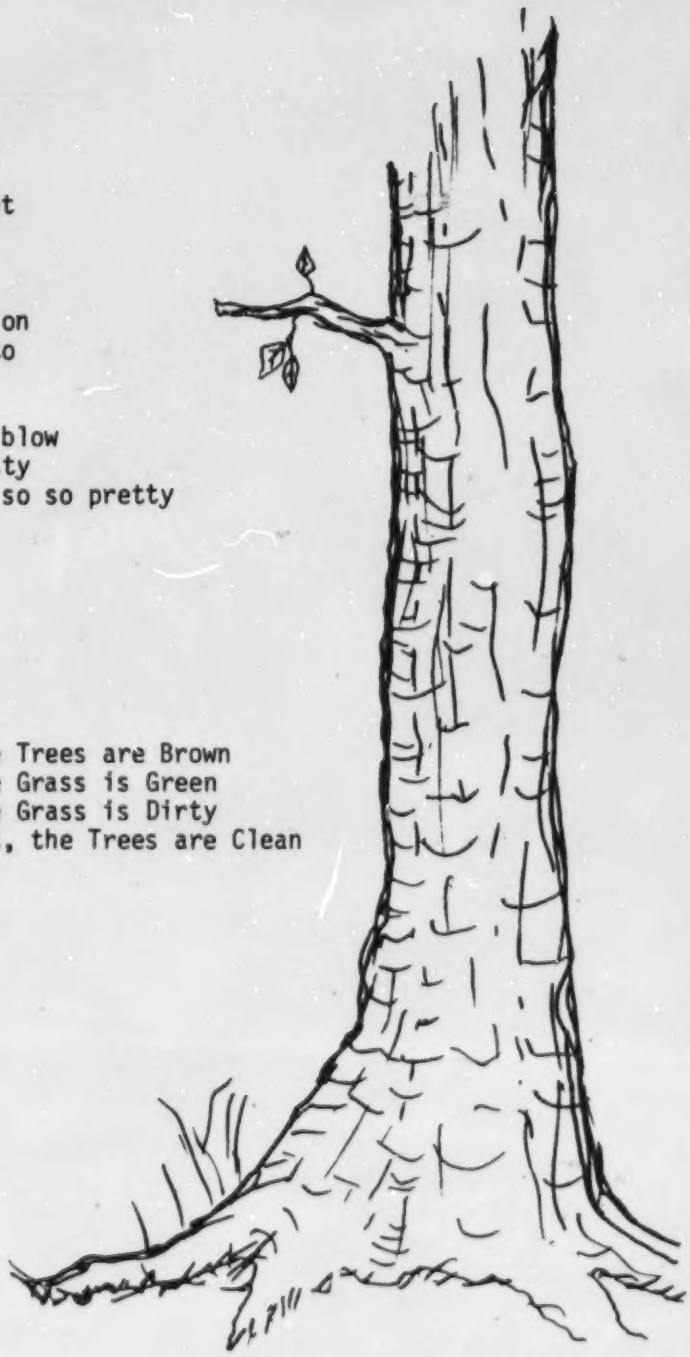
The trees are Kings
The grass is green
But the Trees are the
Kings of everything

NATURE

I love Nature with little bees,
Watching the ants go running by,
The sun is shinning so very bright
It helps the flowers so they can
grow up big, and so colorful.

The little grasshoppers are on
their way. They are going to
eat little ants.

When thewinds start to blow
The grass looks so pretty
The little animals are so so pretty
in their little way



The Trees are Brown
The Grass is Green
The Grass is Dirty
But, the Trees are Clean

FLOWERS

Some are yellow
Some are blue
Some are beautiful
Just like you

GRASSHOPPER

The grasshopper can hop high
Can they even fly

A FIREFLY

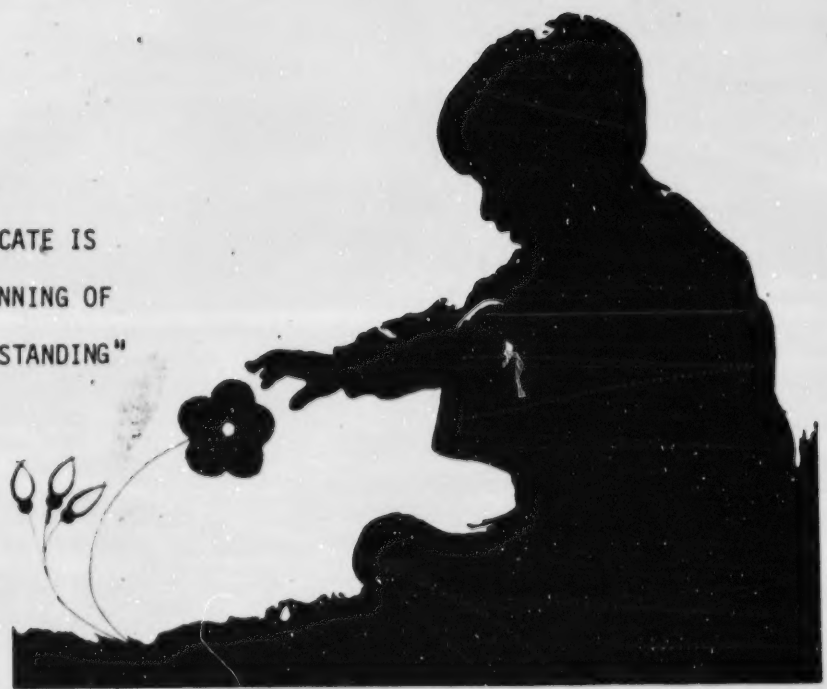
A firefly so pretty and long,
A firefly can sing a song.
It can fly so light and gay,
It can fly every day.

"REACH OUT -

TO COMMUNICATE IS

THE BEGINNING OF

UNDERSTANDING"



Evaluations by 4th and 6th graders

4th

1. I enjoy when we were blind folding and touching the trees. Making bouget. I enjoy having the race and I came in last place. I was a worm. I enjoy that you came and wish that you can come back.

2. Yesterday I wint on an ecology trip, with you and some of your class. I like painting with flowers. And the scavenger hunt. And the trust walk even ifFyrone didn't trust me. And I like picking bouquet. And the creepy-crowler hunt, I was a kitten. And the most of all I like the web of life. Because I like the shape of it, the different things in it, even if I was a squirrel.

3. Yesterday I went on an ecology trip with you and your class. The thing I liked best is the creepy crawler hunt. In writting you to thank yo dfor bringing us out to let us study about ecology. And I also want to thank you about getting out of class!

4. Yesterday I was happy. I liked the web of life and trust walk I like the people too. the scavenger to. I was have funny. I like to go agend.

5. I liked the web of life. It shose how thing depend on each other.

6. The weed of life. The weed of life is the life of many animals and people. It is the way of life. There is the sun, the birds, the air, and many other thing. The sun and water is the most important thing of the weed of life.

7. I like picking the flowers. Becouse I like flower. I think they are pretty. And I think that they can decorate a field.

8. I like all of you because you make me happy and I have not been happy in School. Thank you.

9. I like what we did with Kenny. We were blind folded and each had a partner. And one person was not blind folded and lead the blind folded person around. When one person is done they had to find there tree.

10. I liked the cribe crole contest The bugs and The way Thay ran and becaus I was with you out ther

11. Thanks for the wonderful time. I really liked all of the sports. I learned alot from it. Thanks real much for the time, your great!

12. The Best thing I like is the Blind Folding Part. When we go with the Blind Fold on using our sences in feeling around in Nature.

13. I liked the group we pick flowers and Hidden our eyes. I realy had fun. I am happy you came. Did you enjoy us? Thank you for coming

14. When we were playing Web of life, I was water and it was fun.

6th

1. I had fun. It was intersting.
Web of life. The Web was fun. And I learned that everything depends on something else. When I had the blindfold on I depended on my friend to lead me around by somehow I cound feel like he was going to run me into a tree.

When we had the creepy crawly race I saw some strange kind of animals. And even when I watch the Kids playing around having a race it was fun.

The scavenger hunt was fun. But there was too many catus plants out there. I had fun wensday and hope I can do it again.

2. I liked the S.T.E.P. activities cause they were fun. I liked the blind-folding the best, then I liked the web,of, life. I liked them two the best couse I learned alot. I learned that if you took a few things away, nothing would be living. I also learned that you can feel of something blind -folded and find it when your not.
I also liked the other activities except when I sat on a cactus accross the street. I liked painting the flowers and writing poems. I learned that nature can be alot of fun. I thought the boy's and that toughed us did a real good job.

3. The wab of life - I liked it becose it sowes you the three most in porten things of the world are.

The experience of natcer - Looking for the things of nateer and you find the colores and things older and younger, I naver new you could paint a pictures with Fowers and Leavs

Trust walk - The trust walk is to used your senses to fill the trees, I liked to pick Flowers and I made a vase out of a ball.

Creepy crawly race - it was fun to act like animal

4. The first activity was very interesting. I learned that every thing needs everything needs everything else. I something died or dried up other living things couldn't live. If all the water dried up man and animals would die.

The second activity the blindfold was very interesting. I learned that if you were blind you would have to use your hands or hears. It was also to see if you trusted the person that held you.

The third activity was making a bouqet. I learned that with all the flowers and weeds you could make a pretty bouqet. Also learned that just with whats in the woods it is pretty.

The fourth activity was the race. That was to study the movement of the insect. After the race you had to do what the insect did. if he just sat there that was what you had to do.

The fifth activity was writing a poem. That was to see what you could think up about wildlife..

The sixth activity was a hunt and making a picture out of flowers and leaves. I learned that you could find all kinds of shapes and colors.

5. I loved it anything beats doing classroom work. I also like everything else. The web of life was fun to do I liked it a lot. And then the bug race that was fun too. And then we picked flowers. And then come the hunt for pine trees that was the best part of all. I hope you can come next year and teach some more kids about nature. The thing I liked the best was when we got to write the poems I thing all of them was good We enjoyed having you here. At Patterson 6 grade School.

6. I like the welb of life. I learned alot aboat that. I like, the blinefow actives becouse it help me understan how bline people felt. I like all the actives yall learn us. I had fun in all the actives. Thank you for coming.

7. I liked the activitives that we did. the one we did with the card when we had to find different thing in the feild. Then I liked the one when we had to draw a pitcher with anything in the feild. I used a leaf and grass to draw mine with. the web of life showed us how every thing played a part in nature. the trust walk showed us how inportant or eyes were. When we picked the bowk most of the flowers were gone but I made one anyway when we had the bug race my bug died the grass hoper died I would like to be a teacher for the S.T.E.P. adivitives.

8. I liked the scavenger hunt. I liked to pick things and fill and smell of them.

I liked to draw pictures with flowers. I liked the one where you had to get blind floded and some one had to lead you to a tree and you had to fill of tree and then they lead you away from the tree and they take off the blind flod and you got to find the tree. I liked it because you have to use your hands to fill in stod of your eyes to see.

More Awareness Activities

Sound Awareness

In a quiet spot off the trail let everybody sit down and be as quiet as possible. Ask them to try to keep from rustling leaves and twigs, etc. Once they are quiet ask them to close their eyes and listen for as many different sounds as possible. After about 15 seconds ask them what sounds they heard. If desired, this activity can lead to good discussions of different levels of awareness we experience, etc. Also, you may have participants imitate sounds they heard.

Sensory Wheel

Pick a focal point (a tree, perhaps) in the area. Have everyone sit around this point. Move in close enough to have each person put his feet on the object. Lie back on the ground and ask each person to observe and feel the ground. Still lying back ask what things they noticed and felt. If there is no focal point then start out sitting in a circle with legs straight out in front touching the feet of the person across from him, or sit cross-legged touching the knees of the people on either side of him. Then lie back on the ground and continue.

Stone Identification

Ask each person to find a stone. Sitting cross-legged in a circle tell each person to feel his stone carefully without looking at it. Give them a minute or two to do this. Then ask everyone to pass his stone to you. After jumbling them up, cover each stone with your hand and pass it to your right. Tell everyone to try to identify his stone by its feel. Each time a person receives a stone he will feel it to see if it is his. When he thinks his stone has returned to him, he is to let it drop to the ground and continue passing any other stones that pass to him. Do not tell them in advance why they are feeling the stone and emphasize the importance of not looking at the stone.

Nature's Kaleidoscope (10-20 players)

Purpose: To illustrate how color enables a plant or animal to adapt to its environment.

Materials needed: 100-200 toothpicks (evenly divided: red, green, brown, blue, yellow). Colored toothpicks can be purchased at most food stores or dyed with food coloring.

Description: Leader selects an area with as much variety of ground cover as possible (forest floor covered with leaves, grassy area or bare soil). Each player receives a variety of colored toothpicks. At a signal, all toothpicks are scattered about. Players then have 30 seconds to pick up as many toothpicks as they can.

Player with the most toothpicks wins. The group can then divide the toothpicks according to color and discuss why they found more of certain colors than others. Generally, toothpicks with a color similar to the ground cover will be found the least. Leader can relate this to the protective coloration of animals and how this helps to camouflage them from predators. The group can also discuss how man uses protective coloration.

Also, equally important, how bright colors often help to distract a predator (such as a predator which is led away from a nest by a flight of a brightly colored male) or attract a species for reproduction (such as bees to bright flowers or drably colored female birds to brightly colored males). How can man disrupt the importance of color in nature?

Other Activities to try

*** Have each person think of the animal they dislike the most. Then have each person write a poem about the animal not mentioning the name of the animal. Have each person act out a charade of the animal and let others guess the name of the animal.

*** Using objects found in nature, glue or fasten them together into an animal; or make animals from shells or pipe cleaners.

*** On a clear day - use cloud shapes to look for animals.

*** Sensory Activity - using sense of smell. Collect a variety of items from natural surroundings. Allow people to smell them first, then blindfold everyone and see if they can identify them.

*** Look for relationships (symbiotic -- parasitic, commensalism).

*** Sounds - find them individually and return with them to share.

Activities for Self-Expression

Haiku and Cinquain Poetry

Poetry forms or other self-expression activities are used most effectively in the middle or near the end of the STEP program. Ask the participants to write about something they have experienced up to that point (a sound, a smell, an object, a thought, a feeling, etc.) Let those who wish to do so share their poetry with the others.
(See formats for Haiku and Cinquain)

Group Story

At a spot that particularly sparks the imagination, let the group make up a story. You could start it off, then let each person add something to the story.

Group Poetry

Group poetry can be done by letting each person write a line or two as part of one whole poem.

Wishful Thinking

Pick a good spot where everyone can sit or lie down and be quiet for a few minutes. Then ask each person, "If you could be anything other than a human being, what would you like to be out here and why?"

Poetry Forms

Haiku is a three-line verse form which originated in thirteenth century Japan.

Characteristics of authentic Haiku

Three lines: Line 1 contains 5 syllables: Line 2 contains 7 syllables: Line 3 contains 5 - 17 syllables in all. English translations do not always follow this pattern.

*** Each poem includes the season, location, reference to nature.
*** The subject matter deals with simple ordinary things.
*** No rhyme (Japanese words end in vowels or "N" sounds
*** Few articles or pronouns - syllables can be used for better purpose.
*** Thought comes first: then the syllables are adjusted to fit the form.

Here are some examples:

Departing spring
Hesitates
In the late cherry-blossoms

The old pond;
A frog jumps in.--
The sound of the water

Simply trust:
Do not the petals flutter down
Just like that?

Diamonds in the sky
Upon a velvet drapery
Shimmer in the night

"Word" Cinquain

1. _____

2. _____ _____

3. _____ _____ _____

4. _____ _____ _____ _____

5. _____

1. Use one word to name the subject you are writing about.
2. Use two words to describe #1.
3. Use three words about what #1 is doing.
4. Use four words to tell how you feel about #1.
5. Use a word that means the same as #1.

In the strict poetic sense, cinquain poetry (pronounced san (d) cane) has five lines with a certain number of syllables per line --

2
4
6
8
2

instead of a number of words. You might try to get fancy as you go on with poetry.

ECO - DRAMAS

These short eco-dramas were written, produced, and field tested by a speech class at Rutherford High School. The class, consisting of 10th, 11th, and 12th grade students, was divided into eight groups and given one class period in which to develop ideas about the environment. Resource materials were provided for them to search through for possible problem areas. After much discussion, each group finally decided on one central problem. The groups then had one week to work their idea into a play. At the end of the week, the plays were performed in class and a vote was taken to select the best five plays. Students who were not in one of the chosen plays then moved into one of the other groups, so this remained a class project. An additional week was needed to build background scenery, costumes, acquire props, and have the plays ready for production. A complete list of materials needed is provided for each play, but of course we would encourage you to improvize and make adjustments and improvements where necessary.

It should be noted that this is entirely a student project - the teacher served only as an advisor - making suggestions, offering ideas, editing where necessary, obtaining materials, and coordinating the project.

We would like to acknowledge the assistance of the following people in making the arrangements for our field-testing: Mr. Joel Creel, Springfield Elementary School; Ms. Dixie Wheelock, A. D. Harris Sixth Grade Center; and Ms. Carolyn Blakney, Everitt Junior High School. For the performance of these eco-dramas, Rutherford students were given one day of school leave, and blocks of time were allotted for each school. Transportation was provided by the students, using several cars and two pick up trucks. The plays were presented to 3rd, 6th, 7th, and 9th grade students. Evaluations from these students follow the plays.

Eco-Drama Players

Chris Amicarelle
Randy Barnes
Dennis Beauchamp
Debbie Bennett
Patty Brown
Margo Chancellor
Mike Crew
Chris Goad
Kristi Harris
Ricky Harvey
Ray Hauck
Eric Jenkins
Barry Jones
Warren Jones
Jodena Kirchler
Cathy Kline
Tim Klunk
Jimmy Knight
Barbara Middleton
Louis Myers
Willie Neal
Ronda Pate
Pat Penny
Wayne Peterson
Johnny Pippin
Brian Rutherford
Charles Shannon
Craig Shores
Preston Smith
Wanda Stovall
Tony Tapia
Crystal Utterback

With special thanks to Teri Nadeau, our scenic artist.

BATMAN AND ROBIN FIGHT POLLUTION
(Elementary - Junior High)

Characters:

Batman
Robin
Dr. Slick
Sam Smog
Buzzard
Quack
Commissioner Gordon
Chief O'Hara
Bruce Wayne
Dick Grayson
Alfred
Superman
Narrator

Set:

Batcave - 10' x 5' heavy paper stapled to 2" x 2" lumber - painted to show bat poles leading to Wayne Manor

Joes's Fish Market - 5' x 5' paper on 2" x 2" lumber painted to show front of fish market

Bat Computer - made from large cardboard box, covered with paper and painted

Mega ray transmitter - made from shoe box, covered with paper

Bat rope - 12' length of rope

Money bag - made from pillow case and painted

Costumes:

Batman - light blue sweatpants and shirt, knit cap, black felt shoes, black rubber gloves, blue cape made from 3' x 3' piece of material

Robin - yellow Halloween mask, green tee shirt, green shorts, black boots, green gloves, yellow cape made from 3' x 3' piece of material

Superman - blue shorts, socks, blue tee shirt with Superman insignia painted on, red cape made from 3' x 3' material

Slick - Air Force flight suit or jump suit

Smog - blue jeans, tee shirt, tennis shoes

Buzzard - blue jeans, tee shirt, tennis shoes

Commissioner - dress suit

Chief O'Hara - police uniform (borrowed from local police station)

Bruce Wayne - knit pants, turtleneck shirt, dress shoes

Dick Grayson - knit pants, green windbreaker

Alfred - dress suit, fancy hat

Quack - blue jeans, tee shirt, tennis shoes

Narrator - school clothes

Batman and Robin

Act I, Scene 1

(First we join Batman and Robin in the Batcave - They are talking about a plan to capture the criminal who has been creating oil slicks by destroying oil tankers.)

Batman: Let's feed these oil samples into the Bat Computer, Robin.
Robin: Holy Lubricant Batman, do you honestly think the Bat Computer can find any clues out of this mess of goo?
Batman: Robin, the Bat Computer is no ordinary piece of machinery.
(Robin feeds card into Bat Computer. Moments later Bat Computer gives answer.)
Robin: Holy Computer card, Batman! the culprit is ...
Batman: Dr. Slick.
Robin: Right you are Batman. How did you know?
Batman: Simple Robin, I just used my Bat-logic.
(Hot-line rings)
Batman: Yes, Commissioner...We'll get right on it.
Robin: What's up Batman?
Batman: Another supertanker has been blown up in Prudoe Bay. Robin, I think we should take a trip to Prudoe Bay.
Robin: Right, Batman.
(Batman and Robin arrive at Prudoe Bay)
Batman: Look Robin, it looks like Dr. Slick himself and the rest of his gang over by Joe's Fish Market.
Robin: Holy Flatheaded Flounder Batman, you're absolutely right. I don't think they've seen us.
Batman: Me neither, old Chump. Let's listen to them.
Robin: How Batman? They're at least a block away!
Batman: Yes, Robin they are. But with the Bat Bug I placed in Joe 's Fishmarket we can hear them.
(Batman and Robin listen very carefully)
Dr. Slick: Hey, Buzzard. What do you think about that two billion barrels of oil being brought to Prudoe Bay today?
Buzzard: Nothing "dock". My car does'nt need any oil.
Dr. Slick: No, no, no! That's not what I meant.
Buzzard: Okay! So what about the tanker?
Dr. Slick: We sink it, what else?
Buzzard: We sink it?
Dr. Slick: Yeah. We sink it. My friend up stairs is offering 5 million smackers if we sink it and create a big oil slick.
Buzzard: Man, that's a lot of dough.
Dr. Slick: Sure is, and that Batfink isn't gonna stop me now! He doesn't even know about it.
(Back to Batman and Robin)
Robin: Holy Sneak attack Batman! Is that the truth?
Batman: No Robin. No one knows when the tanker is coming in except us.
Robin: Dr. Slick knows, doesn't he?
Batman: He may know where, but does he know when?
Buzzard: What time does the supertanker come in?
Dr. Slick: That's the only thing I haven't figured out. But, don't worry, I know someone who says he'll tell for $100,000.
Buzzard: Hey Boss. Where are we going to get that much money?
Dr. Slick: Now I know why they call you Buzzard. We're going to take it from a bank.

Buzzard: You mean we're gonna withdraw from our bank accounts?
Dr. Slick: No Dummy. We're gonna rip it off from a bank. Now, let's get out of here before Batman shows up.
Quack: You're too late, Boss. There goes Batman and that Boy Blunder side-kick of his. Hey, they're running away.
Dr. Slick: Yeah, they must have thought we were to tough for them.
(Batman and Robin return to Batcave.)
Robin: Golly, Batman! What do you think Slick is going to do next?
Batman: My guess is that they will either hit the First or Second National Banks.
Robin: How do you know that Batman?
Batman: All other banks in Gotham City have been hit. But the criminals are all in jail, thanks to our fantastic police force.
Robin: Gosh, Batman, you're right as usual.
Batman: Sure Robin, would you suspect anything less than precise answers?
Robin: No Batman, I guess not. Batman! We're too late.
Batman: Robin, what do you mean? Too late for what?
Robin: The Bat Computer says that Slick has already hit the Second National Bank.
Batman: Precisely Robin, that's just as I planned it. Now we can track Dr. Slick and his gang down.
Robin: Batman! The oil tanker has just been sunk in Prudoe Bay!
Batman: Robin, let's go to Joe's Fish Market and see if we can find any clues.
Robin: Right, Batman!
(Batman and Robin are at Joe's Fish Market)
Batman: Robin, the Bat Bug is still working. Listen!
Dr. Slick: Ha! Ha! Ha! We sure showed Batfink and Boy Blunder, didn't we gang?
Buzzard: We sure did...
(Batman and Robin swing into action)
Batman: Not quite, Dr. Slick.
Dr. Slick: Oh, No! It's the Dynamic Duo, get them boys!
(kapow) (oof-f) (zap) (ee-ow) (chrashhh) (THUD)
Robin: Well, that's all of them.
Batman: Not quite. Where's Slick?
Robin: There he goes, he's getting away!
Batman: Not if I can help it. I'll stop him with my Batrope.
(Batman ropes Slick with his Batrope)
Robin: Nice Shot, Batman.
Batman: Thanks, Robin.
(Commissioner Gordon and Chief O'Hara enter)
Commissioner: Well Batman, I see you've caught on to Slick's plot.
Batman: We then let him take the next move. I should say, he made a very big move.
Commissioner: Where he's going he'll pay for the damages in good time.
O'Hara: What would we do without Batman, and you too Robin? Right, Commissioner?
Commissioner: Yes, Chief O'Hara. It would be a dark day in Gotham City if not for the Dynamic Duo.
O'Hara: Let's take them down to the station, Commissioner.
Batman: Well, Robin, Let's get back to the Batcave.
Robin: Right, Batman.
(Batman and Robin over in the Batcave)

Batman: Well, Robin, that's one polluter that got just what was coming to him.
Robin: Holy Clean-up Batman, can the bay be saved from the devestating effects of the gigantic oil slicks?
Batman: We can only hope Robin, that people will not only try to keep the bays clean but also the environment around them.
Robin: Batman, you're right as usual.
Batman: Naturally Robin, I have a reputation to keep up. Now back to work. (Batman and Robin are back at work in the Batcave. Robin throws a candy wrapper into the trash can)
Batman: Robin, I predict that one day we shall come across the toughest environmental disaster man has ever faced.
Robin: Holy Jailbird, More criminals!
Batman: No Robin, not exactly. The disaster is...
Robin: Is what Batman? Come on, spill the beans.
Batman: Do What Robin?
Robin: Spill out what is supposed to happen in a few years.
Batman: Hold your horses, O,K.?
Robin: O.K. Batman, but tell me.
Batman: O.K., In a few years...
Robin: In a few years what, Batman?
Batman: In a few years man may have created more trash than he can handle.
Robin: Maybe you're right Batman. I sure hope not.
Batman: So do I, Robin. Now back to work.
Robin: Batman, what is it we are looking for?
(Alfred enters the Batcave)
Alfred: Excuse me, sir.
Batman: Yes Alfred, what is it?
Alfred: Commissioner Gordon and Chief O'Hara are on their way to see Bruce Wayne and Dick Grayson.
Batman: I think we had better go and meet them, don't you Robin?
Robin: Gosh yes, Batman, you're absolutely right.

Act I, Scene 2

(Bruce Wayne and Dick Grayson are in Wayne Manor with Commissioner Gordon)

Bruce: Commissioner, what can I do for you?
Commissioner: Bruce, I hate to have to tell you this, but your steel mills are making too much smog. They are making Gotham City look like a big dust bowl. People are passing our coming and going. Buildings are blackened by the smog.
Bruce: Excuse me, Commissioner. Before you say any more, could you tell me where this steel mill is located?
Commissioner: Why yes, It is located on the south end of Smokey lane.
Bruce: I'm sorry sir. You have the wrong man commissioner. My steel mills are one the North end of Clear Sky Street. I have the paper right here. (Bruce shows the Commissioner the paper to verify his innocence)
Commissioner: I'm sorry to have barged in on you like this. I should have known better, Bruce.

Act I, Scene 3

(Batman and Robin return to the Batcave)

Batman: Let's see if the Bat Computer can tell who the culprit is this time. Here, feed these samples into the Batcomputer, Robin.
(Robin feeds cards into computer. After about 5 minutes finally gets card back)
Robin: Well, finally, what took you so long?
Holy Smokes, Batman, the culprit that has been polluting the air is...Sam Smog.
Batman: Precisly, Robin. I knew it all the time. Where is his hide-out?
Robin: It's at the end of Smokey Lane. That's the fellow Commissioner Gordon was talking about.
Batman: Exactly, Robin! Let's go get him.
Robin: Right you are, Batman.
(Batman and Robin think they are sneaking up on Sam Smog)
Batman: Robin, I have this erie feeling that we're being followed.
Robin: So do I, Batman.
Batman: When we go aroung this corner we'll duck into this bush and ambush the characters who are following us.
Robin: Right, Batman! Now?
Batman: Yes, Robin. Now!
Sam Smog: Where did they go? ... We'll duck behind these bushes. Oh, No! Ughhh...Some one is already behind these bushes. It's Batman and that Boy Blunder. Get them, boys.
(Ka-pow) (EEE-ow) (Ughhh) (Zappaa) (Smash) (Crash) (THUD)
Batman: Well, Robin, that's all of them.
Robin: Sure is. Wow!
(Chief O'Hara and fellow policmen enter)
Batman: Chief O'Hara, you're just a little too late.
O'Hara: Gee, thanks Batman. It took us a little while to find your clue.
Batman: Just doing my duty as a citizen. Now Gotham City will have clean air to breath and see through.

Act I, Scene 4

(In the Batcave 3 years later)
Robin: Batman, what will we do about all this trash that is cluttering up the Batcave?
Batman: Robin, there's absolutely nothing we can do about it. All of the sanitary land fills are filled to capacity.
Robin: Man, Batman, we're in a trashy jam. Are you sure there is <u>nothing</u> we can do about it?
Batman: Remember what I told you about 3 years ago?
Robin: Yeah, I guess you were right.
Batman: Wait, Robin, there may be one chance left. I'll try and contact Superman and ask him to help us in this emergency.
Robin: I should have thought of that.
Batman: Well, I'm glad one of us thought of it.
Robin: Batman, I hate to say this but how are you planning on contacting Superman when he is 3,000 miles away?
Batman: Yes he is, Robin; but, with my new Bat Megaray transmitter I just invented, It will be easy. That is if I can find it in all this trash. (Robin holds up transmitter)
Robin: Is this it, Batman?
Batman: Yes, Robin. Thanks.

(Batman calls Superman. Moments later Superman arrives)

Batman: Superman, we need your help. How can we get rid of all this trash?

Superman: Have no fear, Batman. I can hurl this load of trash into the flaming heat of the sun. Most Americans can solve their own problems of trash and add some money to their income by taking their recyclable trash to the recycling station in their city or neighborhood.

Batman and Robin: How can we help?

Superman: Tell all Americans about the information I have just given you on recycling and re-using trash that would have either been buried or burned.

Batman: Thanks, Superman, we'll do our best.

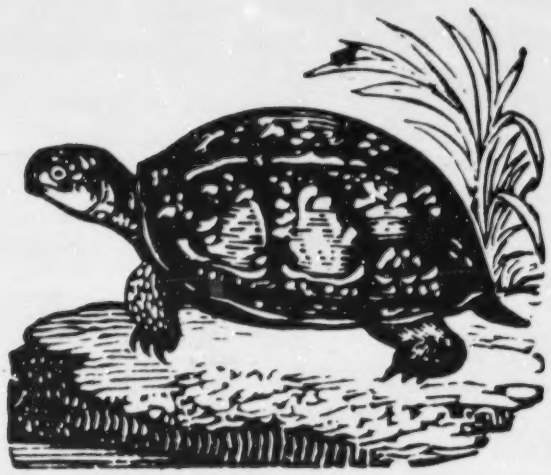
Robin: Holy Wastepaper, Batman! Do you honestly think it will work?

Batman: Yes, Robin. If everyone takes part in it. If they do, think of all the trees we won't have to cut down and use as paper.

Robin: Yeah, Batman. While we cut down on litter, we also cut down on land erosion.

Batman: Good Point, Robin. That's exactly what I meant.

Robin: Golly, Gee, Batman! You're right again as usual. I never would have thought of it that way.



WILDFIRE

(6th - 9th grade)

Characters:

Carl Black - A T.V. news reporter
Ranger
Pete Ross
Charlie
Girl 1
Girl 2
Narrator

Set:

Exterior - 10' x 5' paper stapled to 2" x 2" lumber - painted to show a forest scene
Interior - card table or small desk, two chairs, telephone
Water hose
Water pail
Firehats - borrowed from fire station
Canteen

Costumes:

All costumes were school clothes

Act I, Scene 1

Narrator: The scene opens up with two young ladies at a camp site.

Girl 1: It was a nice dinner. I guess we can start cleaning up.
Girl 2: I will go and start the water for the dishes.
Girl 1: That is a good idea. I will start putting the fire out.
Girl 2: I think we are out of water. Let's go get some.
Girl 1: Yeah. Just a minute, I'll get the pail.

Act I, Scene 2

Narrator: The girls arrive back and smell smoke. They run to the camp site and find that the forest is on fire.

Girl 1: Oh my gosh! How did this happen?
Girl 2: I don't know but, I think we should go find a telephone.
Girl 1: Let's go through the trail.

Narrator: The girls are on their way to the telephone. When they get there, Ch ris dials the Ranger's office and Carl Black is in the office talking when the phone rings.

Ranger: Hello, Ranger Station. Ranger Jones speaking, may I please help you?
Girl 1: I would like to report a fire.
Ranger: What's the location?
Girl 1: On the East side of Jellystone Park.
Ranger: O.K., we will be right there.

Narrator: Ranger hangs up the phone. We are back at the fire. The girls return to their campsite.

Girl 1: Let's do something.
Girl 2: I'll fill the pail full of water and you start throwing sand on the fire.

Narrator: While the girls are busy, the fire truck arrives with the Ranger on the back, and following the truck is Carl Black with his camera men. The firemen get right to work. The cameramen set up the equipment and Carl starts asking questions.

Carl Black: (To the ranger) Do you have any idea what happened?
Ranger: Yes. I believe it was started at the camp of the two young ladies.
Carl: Now what are you going to do about this?
Ranger: There is really nothing to do. First things come first and that is to put out the fire.
Carl: Do you have any idea how much damage the fire caused?
Ranger: Well, it's too early to say right now. The fire is still going strong and my boys are working hard.
Carl: Who are those guys over there?
Ranger: Charlie and Pete. They are from the Jellystone fire department.
Carl: Thank you for talking with me. I think I will go and talk to the young ladies.

Narrator: Carl Black walks over to the young ladies.

Carl: Hi! I'm Carl Black the news reporter, and I would like to talk to you, if you don't mind.
Girl 1: Sure, we don't mind at all.
Carl: Could you tell me what happened?
Girl 2: Well, we had just finished eating and started to clean up.
Girl 1: I was going to put the fire out when Cindy asked me to go with her to get some water.
Girl 2: We went to get the water and when we got back, our campsite was on fire. That's the story.
Carl: Thanks for talking to me. Well, folks, you have heard about the wildfire and how it got started. I think we should know how the firemen feel about it.(He walks over to the firemen) Well, do you think you have the fire under control?
Pete: Yes! I think it should be out in about 10 minutes.
Carl: It was a pretty bad fire.
Charlie: Yes, I would agree.
Carl: I would like to know how you feel about being a fireman.
Pete: To me it's hard and it can also be very dangerous.
Charlie: Yeah! It's lonesome, too when you're away from your wife and kids.
Carl: Thanks a lot. (Turning to the camera) Well, folks, you know about the damage a fire can do, and how careless people are. Be careful with fire, when you are camping. I am going to leave you with this thought. "Ask not what the forest can do for you - Ask what you can do for the forest."

"And remember - if you don't want to make the news, Just don't do it."

This is Carl Black Reporting. Good Evening.

GROWING UP WITH NOISE POLLUTION

Elementary and Junior High

Characters:

3 females
1 male

Set:
Cassette tape recorder - portable- 15 minute tape with sounds of noise:
pollution - factories, cars, trains, bells planes, construction sties, etc. (a local radio station recorded this for us)
Portable chalk board and chalk
Toys - stuffed animals, dolls, pull toys, etc.
Thermometer
Sphygmomanometer (blood pressure gauge)
Picnic basket, peanut butter, jelly, napkins, knife
Engagement ring

Costumes:
Nurses uniform - or use white pants and waitress smock and borrow a candy striper hat
Children's outfits - shorts and tops, bobbie socks and tennis shoes
Teenagers outfits - school clothes
Senior citizen's outfits - long dresses or old clothes from storage

ActI, Scene 1

(One little girl comes out on stage)
1st: I wish I had someone to play with. (second little girl comes out)
1st: Patty! Will you play with me?
2nd: Sure!
1st: Here, look at my doll. You can play with her.
2nd: No! I want to play with the monkey.
1st: No!
2nd: Yes! (Throws a temper tantrum)
1st: (Joins in the tantrum) (Noise pollution sounds begin, grows louder - stops!)
2nd: (Sadly) There are no more places to play.
1st: And no more places to fight! (The 2 girls walk off stage, sadly)

Act I, Scene 2 Setting: a schoolroom: there are several children talking about how mean the teacher is. One of them has on engagement ring.

Boy 1: The teacher is real mean.
Girl 1: Yes, she sure is mean.
Girl 2: She doesn't know anything.
Boy 1: Yeah! She sure doesn't.
Girl 1: She's mean.
Girl 2: Guess what? I am going to get married - see my engagement ring?

Girl 1: Well, so what? I have a hundred boy friends!
Boy 1: I don't like girls!
Girl 2: Well, there aren't any girls who would like to marry you anyway.
(Teacher comes in)
Teacher: Class - be quiet!
(children keep on talking about anything)
Teacher: (to girl 1) Now you had better be quiet or else I'll send you out into the hall.
Girl 1: (keeps on talking about anything) (Teacher takes Girl 1 by the ear and takes her to the hall.)
Teacher: Now you stay out there!
Girl 1: (comes in and sits down) Oh, let me stay! I'll be quiet, I promise!
Teacher: Okay, sit down down and be quiet. (Sounds of noise start again and becomes gradually louder. Finally stops.
Teacher: How are we supposed to teach with all this noise?
Girl 2: ... and how are we supposed to learn?

Act I, Scene 3 Setting: a picnic scene (boy and girl enter carrying a picnic basket and holding hands.

Girl: This is such a nice place for a picnic.
Boy: Yes, it is. What's for lunch?
Girl: Peanutbutter and jelly sandwiches.
Boy: (angrily) We always have peanutbutter and jelly sandwiches!
Girl: Well, peanutbutter is good for you!
Boy: Well, O.k. let's forget it.
Girl: Okay! (Sounds of noise begin again and become gradually louder. Finally stop.)
Girl: Let's go someplace else to eat.
Boy: Yes. It's too noisy here. (They walk off)

Act I, Scene 4 Setting: An empty room. A nurse is standing in the middle. An old woman enters. The nurse places a thermometer in the woman's mouth and shakes her head sadly. Another woman enters. The nurse checks her blood pressure and again shakes her head sadly. Another old woman enters with hands cupped around her ears and staggers.
Nurse: (Shouting) (to 3rd woman) Can you hear me?
3rd woman: (loudly) What?
Nurse: Can you hear me? (The three women stand side by side)
Nurse: High temperature, high blood pressure, and loss of hearing are just three damaging effects of noise pollution. If you don't want to look like this when you are older, then do whatever you can to prevent noise pollution.

(To audience) How many ways can you think of to stop noise pollution?

OVERPOPULATION

6th grade - junior high

Characters:

Narrator
Groucho
Sly
Cool
Dumbo
Polly
Molly
Pregnant woman
Police officer

Set:

No background scenery is necessary, but you could staple paper to 2" x 2" lumber and paint to represent a room. Small signs may be used to denote " Sleeping Quarters" and "Ration Station"
Card table
Tablecloth
Bread
Saucer
Glasses - four
Pitcher full of water

Costumes:

All school clothes except police officer (borrow police uniform) and pregnant woman (maternity or smock top, stuffed with pillow)

Narrator: The scene opens. The year is 2029. The four main characters in their sleeping quarters issued by the Housing Quarters are Sly, Cool, Dumbo, and Groucho. They are apparently asleep.

Groucho: I just can't stand this anymore. This standing up and sleeping is for the birds.
Sly: You might as well face it. The world is so crowded now that there is no place to lie down and sleep.
Cool: That's right. If those people back in the 70's were as cool as I am they wouldn't have let us get in this situation.
Groucho: What's that supposed to mean?
Cool: I mean if they would have listened when everyone was talking about the effects overpopulation could have on the earth we wouldn't be in this mess.
Sly: But instead they only ignored them. Right, Dumbo?
Dumbo: Yeah, they ignored them.
Sly: Just think what we have brought upon ourselves. I don't know how we could have been so dumb!
Dumbo: Yeah, so dumb!
Cool: I hear they are destroying the last of the automobiles today.
Sly: That's what the newspaper says. Another example of the products of the human race.
Groucho: I could break a couple of those guys faces back in the 70's.

They used more gas when they had a gas shortage and now we don't even have any gas.
Sly: Yeah, but there is always the trusty old bicycle.
Dumbo: Yeah, a bicycle.
Cool: Have you seen the new Monte Carlo Spyder bike? It's super cool! Just what I need.
Groucho: And where are you gonna get a thousand bucks to buy a bicycle?
Dumbo: Yeah, where?
Cool: I have to sell my ration tickets and save my money.
Sly: That's a good idea.
Dumbo: Yeah, a good idea.
Groucho: I'm so hungry my stomach is doing flipflops!
Cool: Speaking of food, whose day is it to eat?
Dumbo: Yeah, whose day to eat?
Sly: The ration tickets say that Groucho and Dumbo ate yesterday, so means Sly and I eat today.
Cool: Well, let's go then. I'm really hungry. Do you think they'll have water to go with the bread?
Sly: I don't know. You know they found the water system to be polluted by sewer drainage because the sewer system overflowed. It was over-used.
Groucho: Why don't one of you sell me your bread ration for today.
Sly: You must be high!!!
Cool: I'll see when I get back.
Groucho: Well, how do you like that? (he yells to Sly and Cool) I hope the water tastes like the sewer!

Narrator: The scene now changes to the ration station where Sly and Cool are getting their bread ration for today.

Cool: Man, we must have waited an hour for this. I hope it's worth it.
Sly: (spits the water out) This is just great! The water tastes just like the sewer!
Cool: Yeah, and the bread is stale.
Sly: The bread was outdated in the 19th Century.
(Two girls enter. Molly and Polly)
Molly: This food is good today.
Sly: Are you kidding?
Polly: This is the best I've tasted, and I have been coming here a whole year.
Cool: I can remember when we used to ask for real food, not just bread and water.
Sly: Yeah, that was so long ago that I forgot the taste of real food.
Molly: Yes, it has been a long time.
Polly: You might as well forget about the taste of food, because we'll never have any more!
Cool: What is all that noise over there? Let's go check it out.
(Policeman pulling lady by the arm)
Sly: What are you arresting her for?
Police: Suspicion of pregnancy.
Cool: Why should she be arrested for that?
Police: Haven't you heard of the new law? Any one suspected of being pregnant is charged with over-population.
Molly: What's the penalty for this?
Police: Life imprisonment or voluntary abortion. (Policeman leaves)
(Molly starts crying)

Cool: What's wrong with her?
Polly: She's pregnant.
Sly: That's really bad.
Polly: I'd better get her to her standing quarters.
Cool: What if we carry her piece of bread to Groucho and Dumbo?
Sly: O.K. but you had better hide the food.

(Scene changes back to the small standing quarters

Sly: Hey, we brought you something to eat.
Groucho: Thanks, stale bread is better than nothing, I guess.
Dumbo: Yeah, better than nothing.
Cool: Do you know that they are arresting people for over-population?
Groucho: They deserve it.
Sly: Well, you don't even have a heart, man!
Dumbo: Yeah, no heart.
Sly: Well, let's not argue. We've all had something to eat today, but what about tomorrow?
Dumbo: Yeah, what about tomorrow?
Cool: There's no telling. I wish people of the past century had warned us about over-population. I also wish they had done something about it.
Sly: I'm sure if they were in our place they would say the same thing.

Narrator: You are the future of the world. What happens is in your hands. Will you continue to over-populate the earth or will you use common sense and prevent such a scene as was just presented? The decision is yours.

POLLUTION 1976

Elementary - 7th grade

This play offers a good opportunity for younger students to create their own play. The script,read by a narrator, is provided, and the set, props, and action can be developed by your students. A sound effects record or tape can be used, or students can make their own "noises." Factories and boats or planes can be made out of large cardboard boxes, papered and painted, and "motorized" by a student inside. Smokestacks can be made from smaller boxes or large cardboard rolls found in carpet, floor covering, etc. For our production, we also used a diving mask and snorkel, old newspapers, assorted trash, fruit baskets, wooden dowels, and a fire extinguisher to create "smoke." We encourage you to let your students use their own creativity. This play is expecially appropriate in class activities, since no lines have to be memorized, and action can be adapted or improvised. Additional material may also be added to the information presented here.

Narrator:

In this play, we will show you several types of pollution. Pollution which destroys our environment, is created by people - and only people can stop it.

Air pollution can come from many sources. One of these is from airplanes. On taking off, airplane engines emit an invisible gas which can cause sickness. Automobiles and trucks also pollute the air through exhaust fumes. These fumes contain carbon monoxide and carbon and lead particles which can cause respiratory illnesses in people and animals. Some of these elements can also cause clothing and other textile products to discolor and decay. Another major source of air pollution comes from factories. Smoke, steam, and other types of factory exhaust often contain lead, carbon, sulfur, or other particles which have been linked to cancer and respiratory diseases. Air pollution can hurt us - it can even kill us. You can help in the fight to make cars, planes, and factories pollution free.

Land pollution is another very common problem in today's world. This type of pollution is so common, we often don't realize that it is happening. Land pollution can be as simple as incorrectly disposing of trash. Many people are not aware that most household trash can be recycled. Cans, glass, and paper can be taken to recycling centers, and kitchen garbage can be buried to make compost for your flower beds or vegtable garden. Other household items such as egg and milk cartons, tin cans, bottles, pie plates, etc. can be used for a variety of purposes. How many ways can you think of to "recycle" these and other objects? Land pollution also occurs when areas are cleared for shopping centers

housing developments, and other construction projects. Large scale clearing of the land destroys the habitats of wildlife and often kills the wildlife. Trees and shrubs, which take carbon dioxide from the air and convert it to oxygen, are often cut and burned. This directly affects all living organisms.

We can fight land pollution by picking up our own litter, properly disposing of all trash, and encouraging building developers to leave trees and shrubs around construction sites. We can also help save our environment by taking the time to recycle our resources.

Another type of pollution which is especially damaging to us in Florida is water pollution. Many people think we have a never-ending supply of fresh water, but this simply isn't true. Factories, sewage systems, and people are polluting our water sources. Many industries dump chemicals and wastes into rivers and streams. Sewage systems often empty into bodies of water. People dump polluting objects into the rivers, bays, and oceans. Nature recycles water through evaporation and condensation, but recycled dirty water is still dirty water. We can help by not dumping trash into our waterways, and by encouraging others to help stop water pollution.

We often criticize others for polluting our earth without realizing that we often contribute to another type of pollution. This is noise pollution. Noise pollution can come from many sources - a loud or damaged car muffler, stereo systems and amplifiers played at a loud volume, unnecessary blowing of our car horns, diesel trucks, motorcycles, and many other noise producers. Again, industries are often major noise polluters. The noise level in many factories is at the danger level, and trucks associated with industries produce extremely high noise levels. Noise pollution can cause high blood pressure, hypertension, and loss of hearing. Let's do what we can to stop noise pollution.

All types of pollution are damaging. Will you stop pollution, or will you allow it to destroy our environment - and us?

The decision is yours.

Evaluations by elementary and junior high students

1. The play we saw last friday was very good and it was put so we could get an idea of how the environment is changing. The actors were good and their performance was really good. The one thing I liked the most about it was it showed that people in this world do care about the envirment.

2. The plays was good I like it. You got down write to the problem like noise pullution I would like to see it again nexts year it was interesteng. "that's all I can say," come see us again.

3. The plays that we seen on Friday were pretty good. They would make any person that was watching think.
I thaught that they did good. They were all things that could really happened one day in the future.

4. The play on hearing was very good and they put the point across to me, so when I got home I didn't turn up my stero up to loud.

5. I think they were trying to tell us that we need to stop having so much childern and to stop pollution and noise if we don't it is going to stop us.

6. I really thought they were good and funny. I would like for them to come back if they could! They did get the point across. They're understanding far little kids. And it wasn't corny.

7. I liked all of your plays they were helpful and funny. You should make alot more as good as the rest of them. The students in the play acted it out very good

8. I did like your show it was very funny and nice. I didn't like how short the programs were. I liked Batman and Robin. I loved your show. I told me alot of things I didn't know.

9. Yes I liked the program because it showed we should not be doing things bad I liked Batman and Robin It showed pollution is bad andthat crime is too. That's what I liked.

10. I like the show
I like it becous
It was about
Pollutin I wish
ther where
no pollutin

11. I liked when they played the pollution parte but what I didn't like was the noise. Now I no how bad pollution is it could kill some body and no body could hear some body else. Pollution is a horrible thing to be in.

12. I enjoyed it because it taught me that to much of nois can hurt our bodies. Why! I enjoyed it because I didn't know that nois can hurt you. I learn that you shouldn't never pollute. Stop the nois myself.

13. I enjoyed the show.

I enjoyed batmanto.
I lerned not to pollut.
That pollution can make pepole
sik. I did not know the you
can recycle things.
Not to polluit.

14. I enjoyed the prongram because I like prongrams. I learnd the facts to not pollute and to not make to much noise. I can stop pollution by picking up garbage when I see it.

15. I like Batman and Robin. Do not Pollution the world. The Show wos fun. I taught to Batman and Robin

16. Ienjoyed it. Becoes it had lesen. Don't make noise and bon't pollute. Pikc up papper and stuof like that, so ther will be no pollution.

17. I enjoyed the program. I liked the part about the pallution. It was funny but sereois to.

Pollution is caused by people. Making noise is pollution smoke trash and other thing's.

I can stop throwing trash down on the ground.

I can help stop burning thing's to.

I really enjoyed your program.

The Rutherford S.T.E.P. Project in Retrospect

The objectives were too numerous for the available time. The major objectives were accomplished. Several were not accomplished for various reasons. The film was not made of the eco-dramas or the environmental study area of Bay County, due to lack of time and lack of some vital equipment. The Project with the Junior Museum has been delayed. There was talk of relocating the Junior Museum at one time. We hope to be able to complete the above activities next year thus, meeting all of our objectives.

S.T.E.P. has been a very rewarding and delightful experience. We do hope other high schools will apply for grants and get into S.T.E.P.

Jean Oates and Sandy Linton
Coordinators

L. W. McDonald, Principal
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Where Can I Learn About S.T.E.P.?

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